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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,741	09/30/2004	Setsuo Omoto	2004-1468A	9829

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EXAMINER

HANDAL, KAITI V

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/509,741	OMOTO ET AL.	
	Examiner	Art Unit	
	Kaity Handal	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 10-12, 17, 20, 23, and 29-30 is/are pending in the application.
- 4a) Of the above claim(s) 10-12, 17, 20, 23, and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 29-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities:

Claim 1 contains unclear language in relation to the raw gas being fed into the reformer. The phrase "at least one raw gas among" in line 3 is objected to.

Appropriate correction is required.

2. Claim 3 is objected to because of the following informalities:

Claim 3 contains unclear language in relation to the location of the adsorbent. The phrase "at least one location among" in line 3 is objected to.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-203865 in view of Erickson (US 4,287,170).

With respect to claims 1 and 29, JP 06-203865 teaches a fuel cell power generation apparatus (illustrated in fig. 1) comprising: a raw gas feeding means (see for example line B, J, F, D, E, 8) for feeding into the fuel reforming device (1) raw

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gas; an inert gas formation means/oxygen adsorbent (8) (Abstract, paragraph [0010]).

While JP 06-203865 shows that oxygen is removed from a gas containing oxygen, nitrogen by oxygen adsorbent (8) (Abstract), JP 06-203865 does not explicitly show the specifics of said adsorbent wherein said inert gas formation means/oxygen adsorbent (8) has an adsorbent reduction means (including a heater) by use of an anode exhaust gas discharged from an anode of the fuel cell body or a reformed gas reformed in the fuel reforming device wherein the oxygen adsorbent comprises at least one of chromium (Cr), manganese (Mn), iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), and zinc (Zn).

Erickson teaches oxygen adsorption using an oxygen adsorbent comprising manganese (Mn) (col. 4, lines 55-60); and oxygen adsorbent reduction means (col. 5, lines 14-17) (including a heater (Abstract)) by use of a reformed gas/reducing gas (Abstract) in order to generate a gas mixture substantially free of oxygen (col. 7, claim 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an oxygen adsorbent comprising at least one of chromium (Cr), manganese (Mn), iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), and zinc (Zn) and an adsorbent reduction means by use of a reformed gas/reducing gas in the apparatus of JP 06-203865, as taught by Erickson, in order to generate a gas mixture substantially free of oxygen.

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With respect to claim 3, JP 06-203865 discloses all claim limitations as set forth above and further teaches wherein the oxygen adsorbent is positioned between a reforming catalyst and a CO conversion catalyst layer provided in the fuel reforming device, or in a location upstream of the reforming catalyst layer within the fuel reforming device, or in a location in the reforming catalyst layer provided in the fuel reforming device.

With respect to claim 30, JP 06-203865 teaches wherein the oxygen adsorbent/oxygen stripper (8) is located adjacent the fuel reforming device such oxygen adsorbent is heated by heat of the fuel reforming device (as illustrated).

Response to Arguments

Election/Restriction

Examiner respectfully points out that since applicant's response is silent to traversing the restriction made in the previous Office Action dated 6/14/2006, therefore the restriction is made without traverse.

Claims 10-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/14/2006.

Prior Art Rejection

Applicant's arguments with respect to claims 1, 3, and 29-30 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaity Handal whose telephone number is (571) 272-8520. The examiner can normally be reached on M-F 8-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KH

11/2/2006


BASIA RIDLEY
PRIMARY EXAMINER